

KIC 005036480

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
005036480-01	OBS	4080.01	1.061027	132.511429	136.4	2.396	14.7	16.9	0.88	5767	1.10	1883.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005036480-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

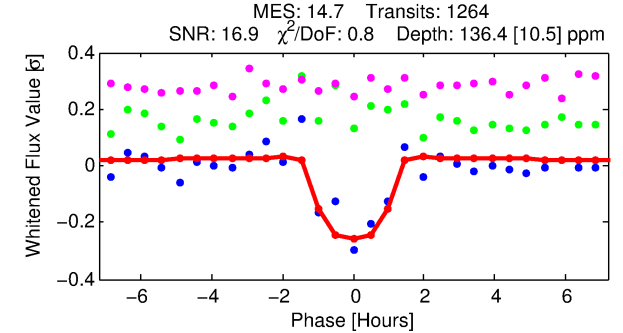
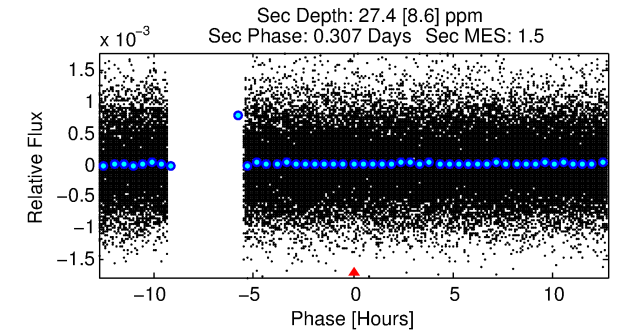
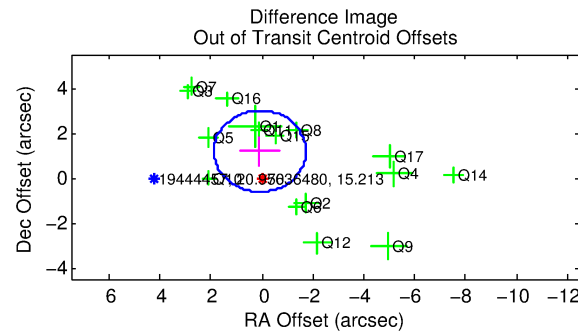
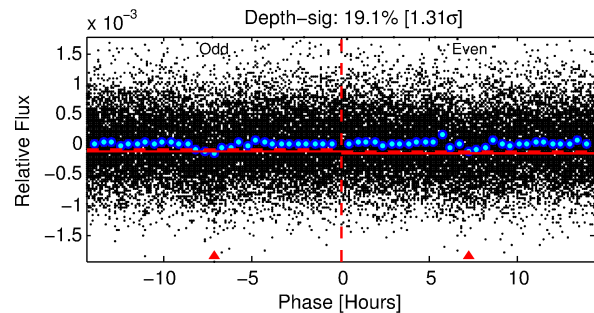
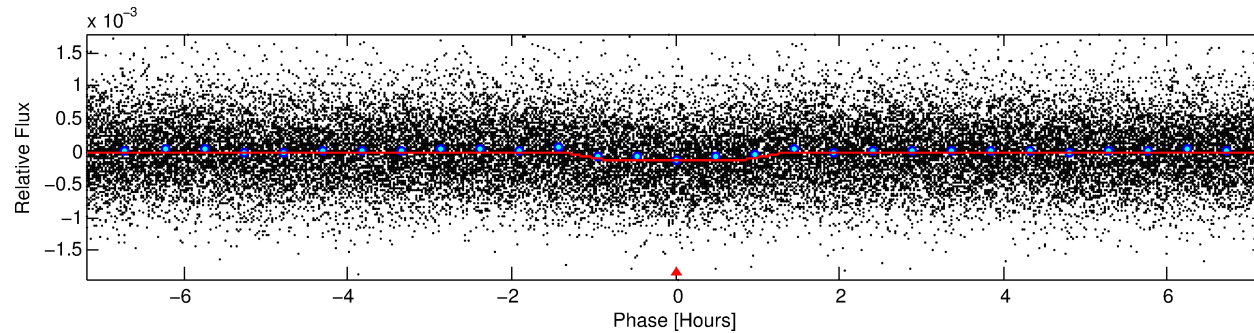
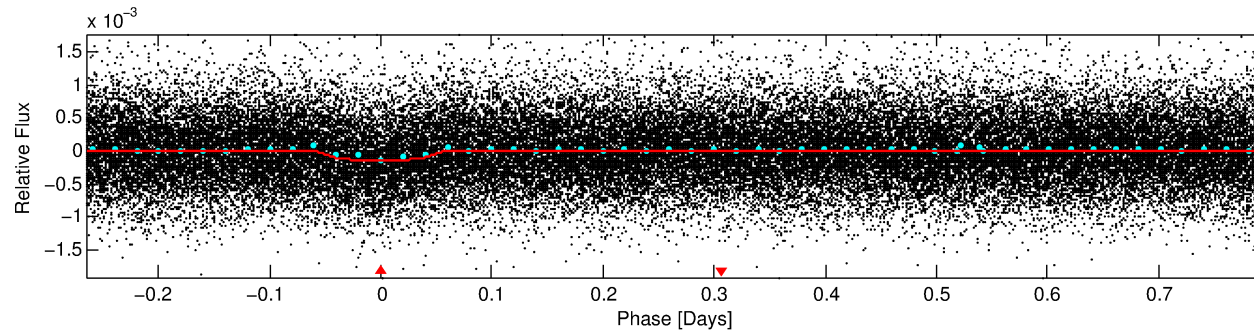
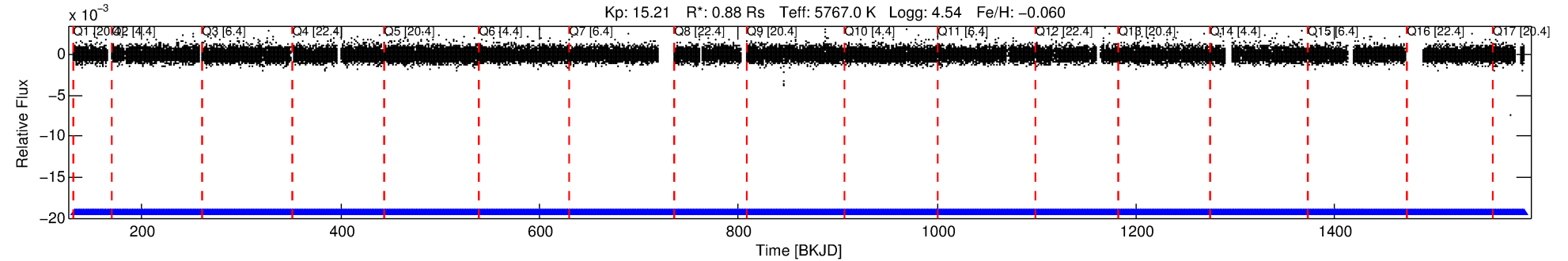
Ephemeris Match Information For 005036480-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
005036480-01	5036480	6504.01	5036538	1:1	35.2	-1	-8	13.35	15.21	3091.40	Direct-PRF	0	1.53	0.71

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5036480 Candidate: 1 of 1 Period: 1.061 d
KOI: K04080.01 Corr: 0.891



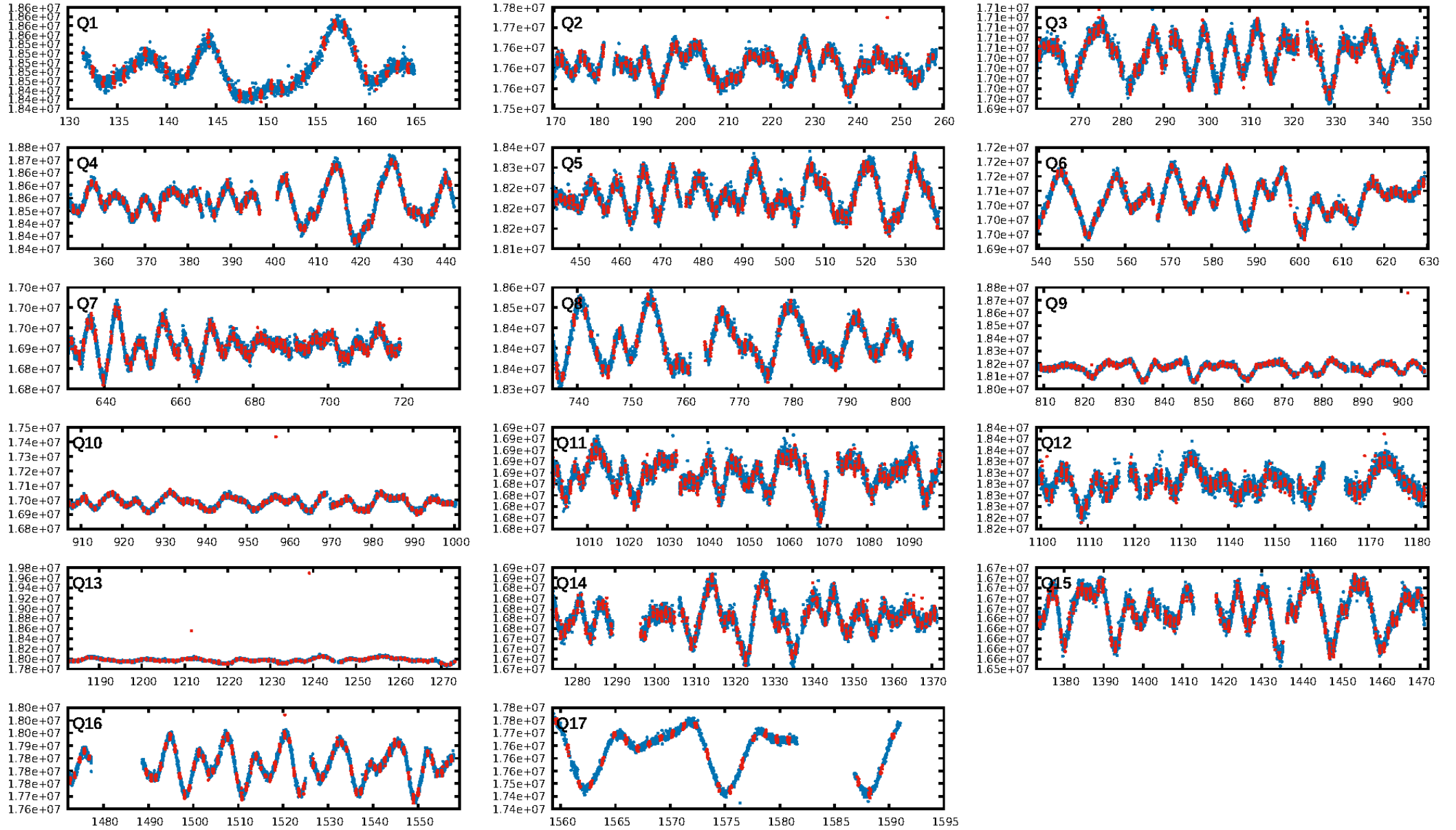
DV Fit Results:

Period = 1.06103 [0.00001] d
Epoch = 132.5114 [0.0018] BKJD
Rp/R* = 0.0114 [0.0058]
a/R* = 2.64 [5.10]
b = 0.69 [1.76]
Seff = 1883.84 [646.25]
Teq = 1680 [144] K
Rp = 1.10 [0.63] Re
a = 0.0202 [0.0045] AU
Ag = 5.13 [5.72] [0.72 σ]
Teffp = 3908 [1051] K [2.10 σ]

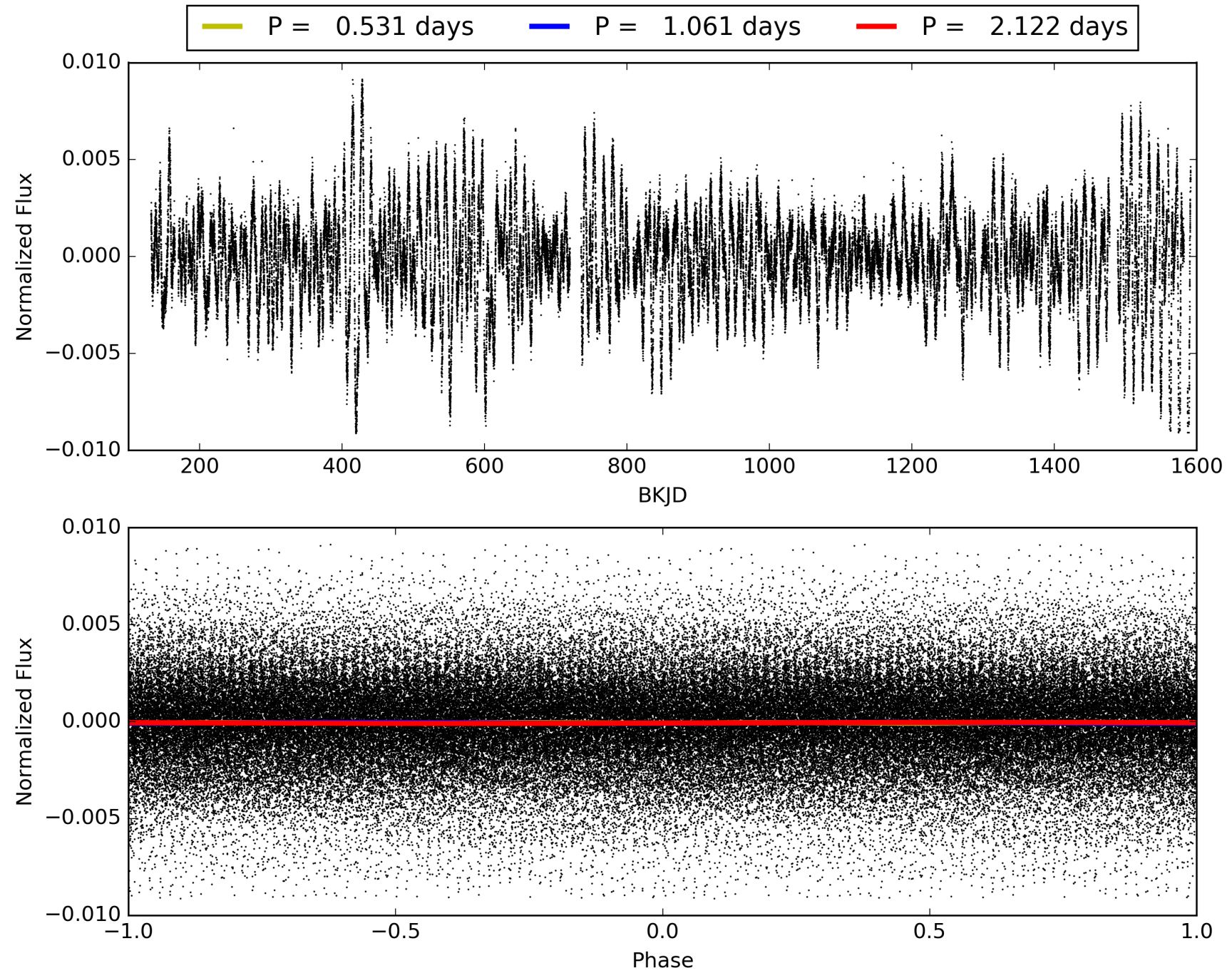
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.48e-47
RollingBand-fgt: 1.00 [1208/1208]
GhostDiagnostic-chr: 0.09877
Centroid-sig: 0.4%
Centroid-so: 1.174 arcsec [1.50 σ]
OotOffset-rm: 1.188 arcsec [1.97 σ]
KicOffset-rm: 1.202 arcsec [2.00 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.19 [3/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005036480-01, PDC Light Curves

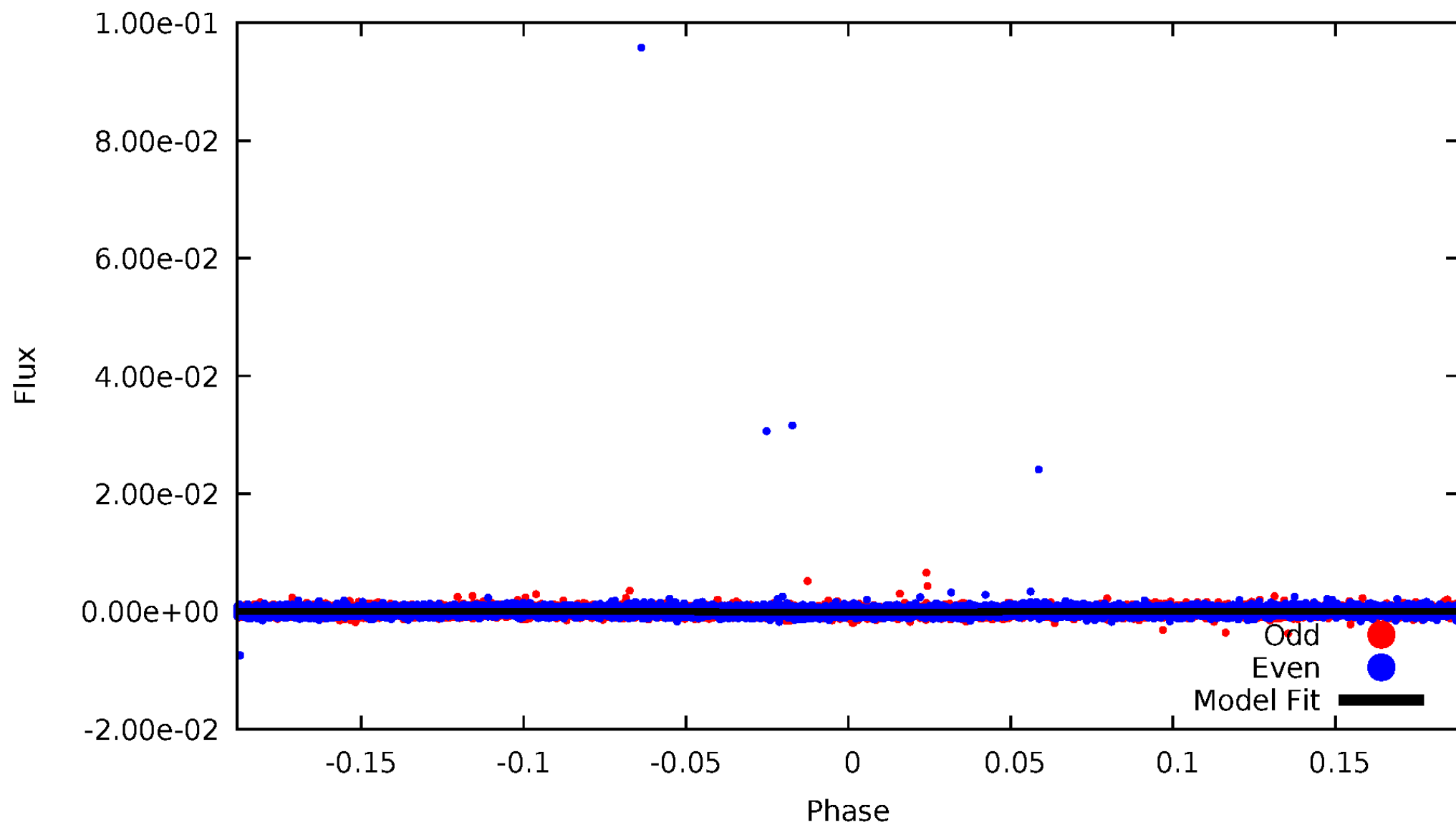


TCE 005036480-01



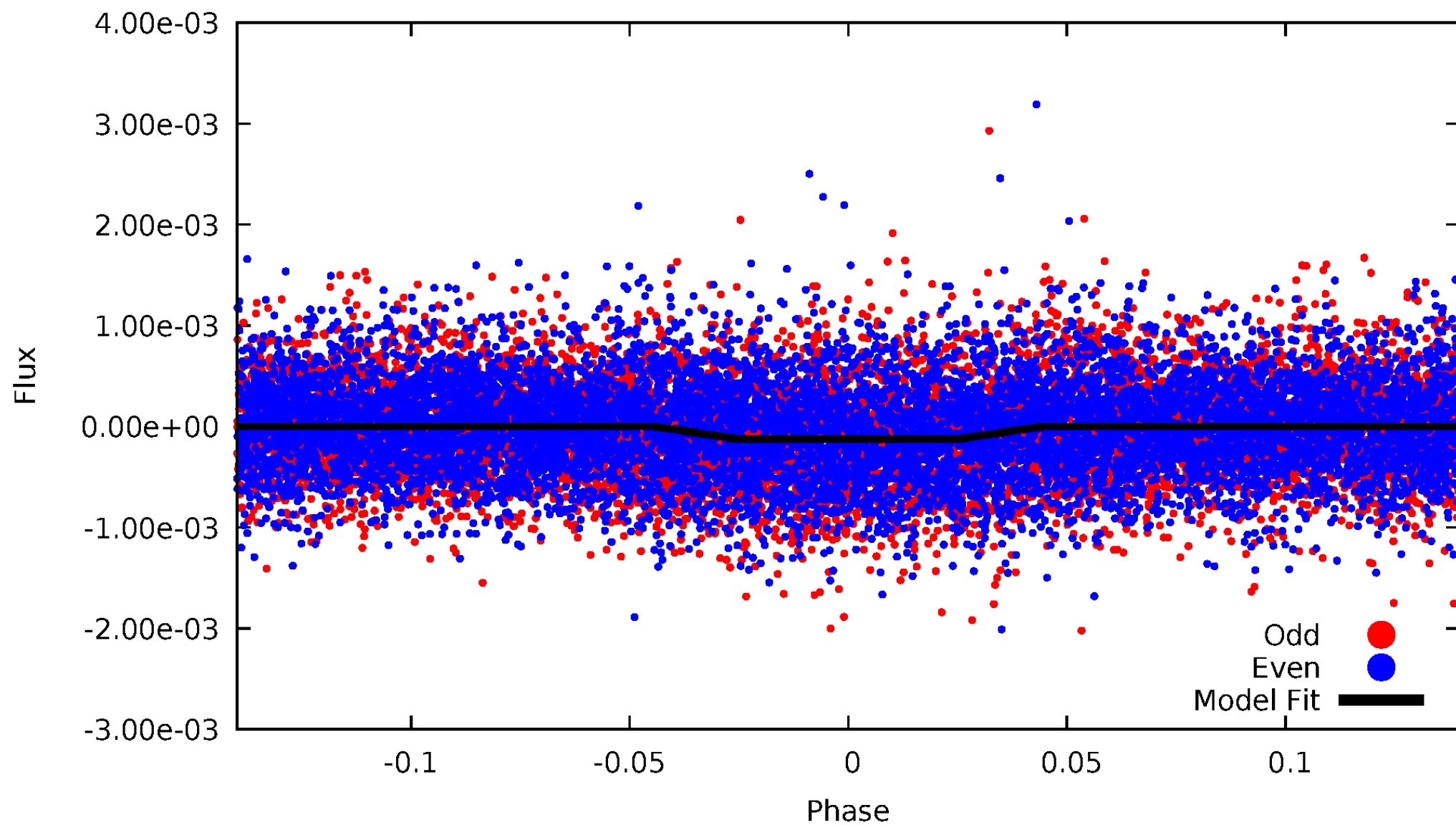
DV Odd/Even

TCE 005036480-01



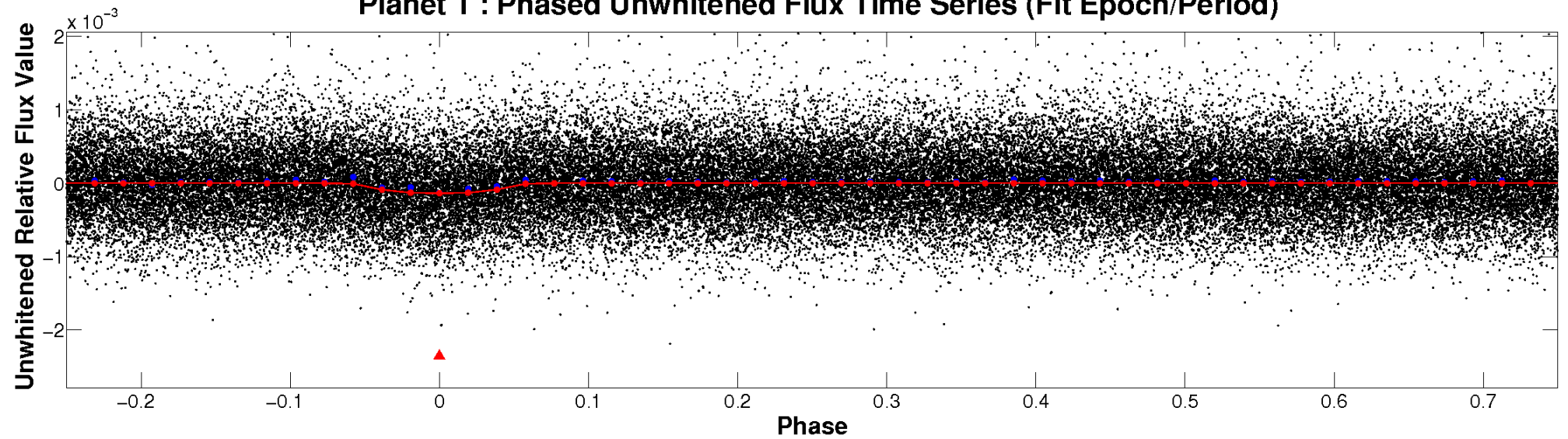
ALT Odd/Even

TCE 005036480-01

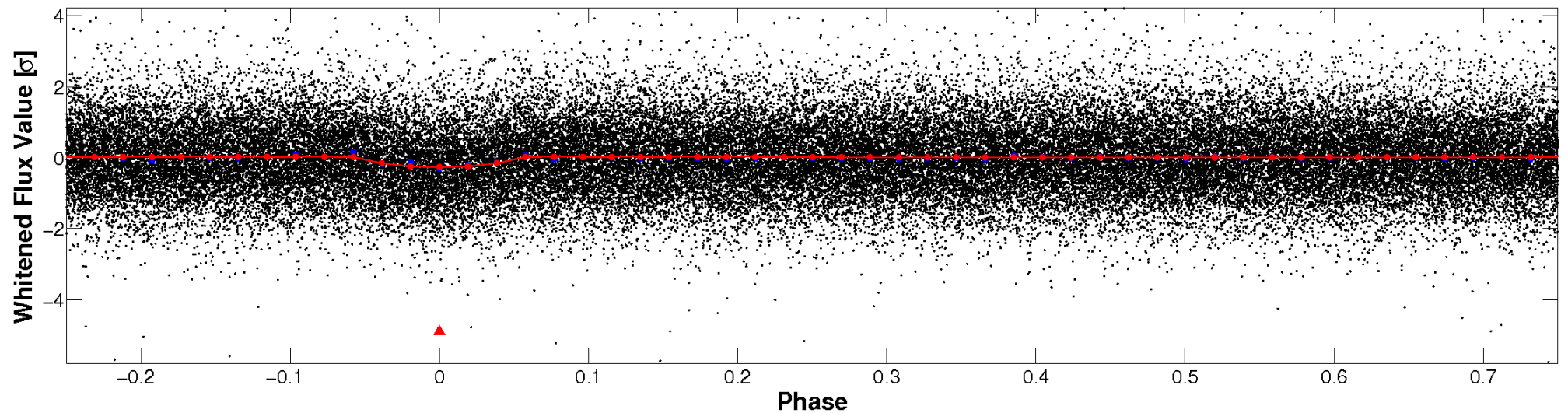


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

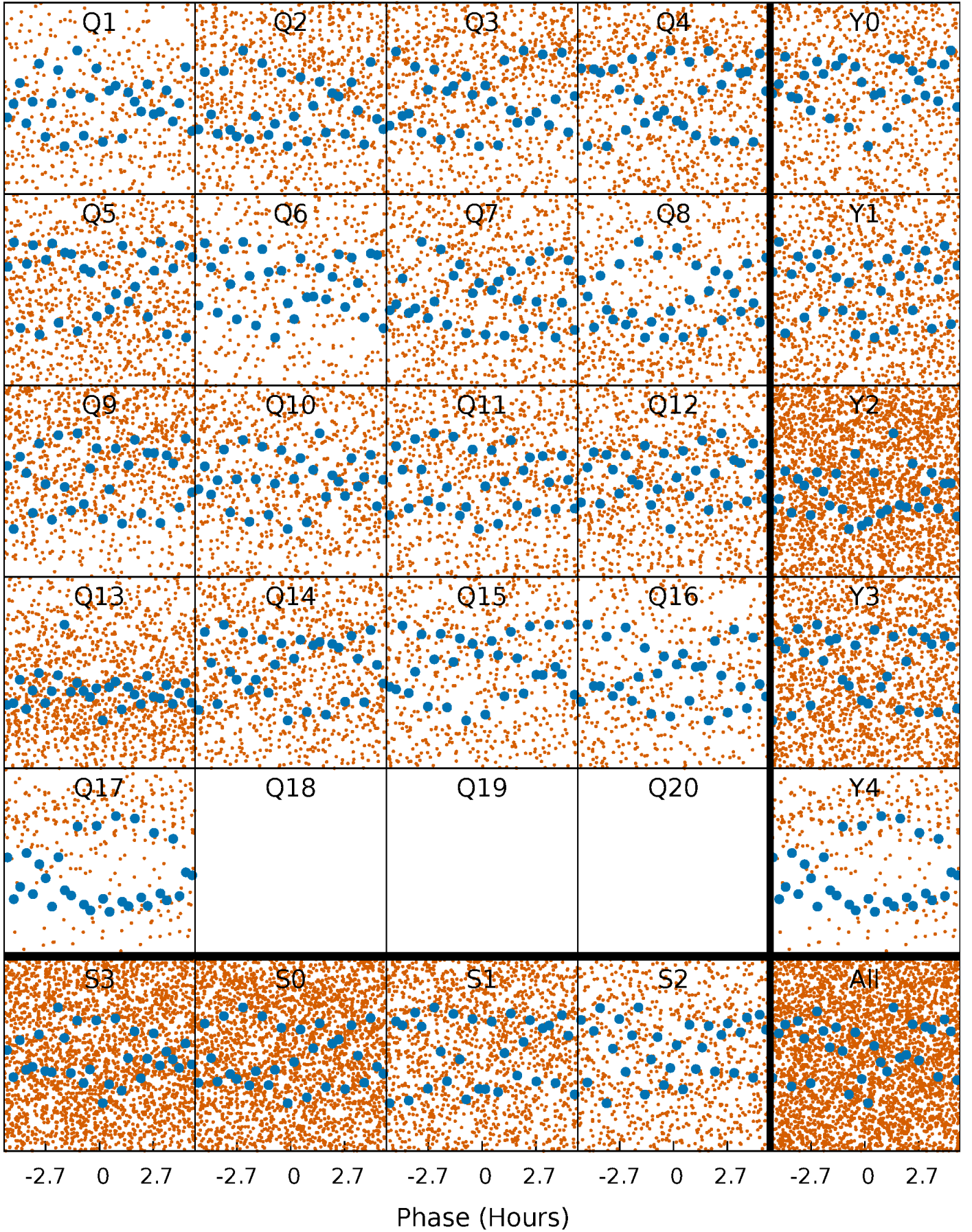


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



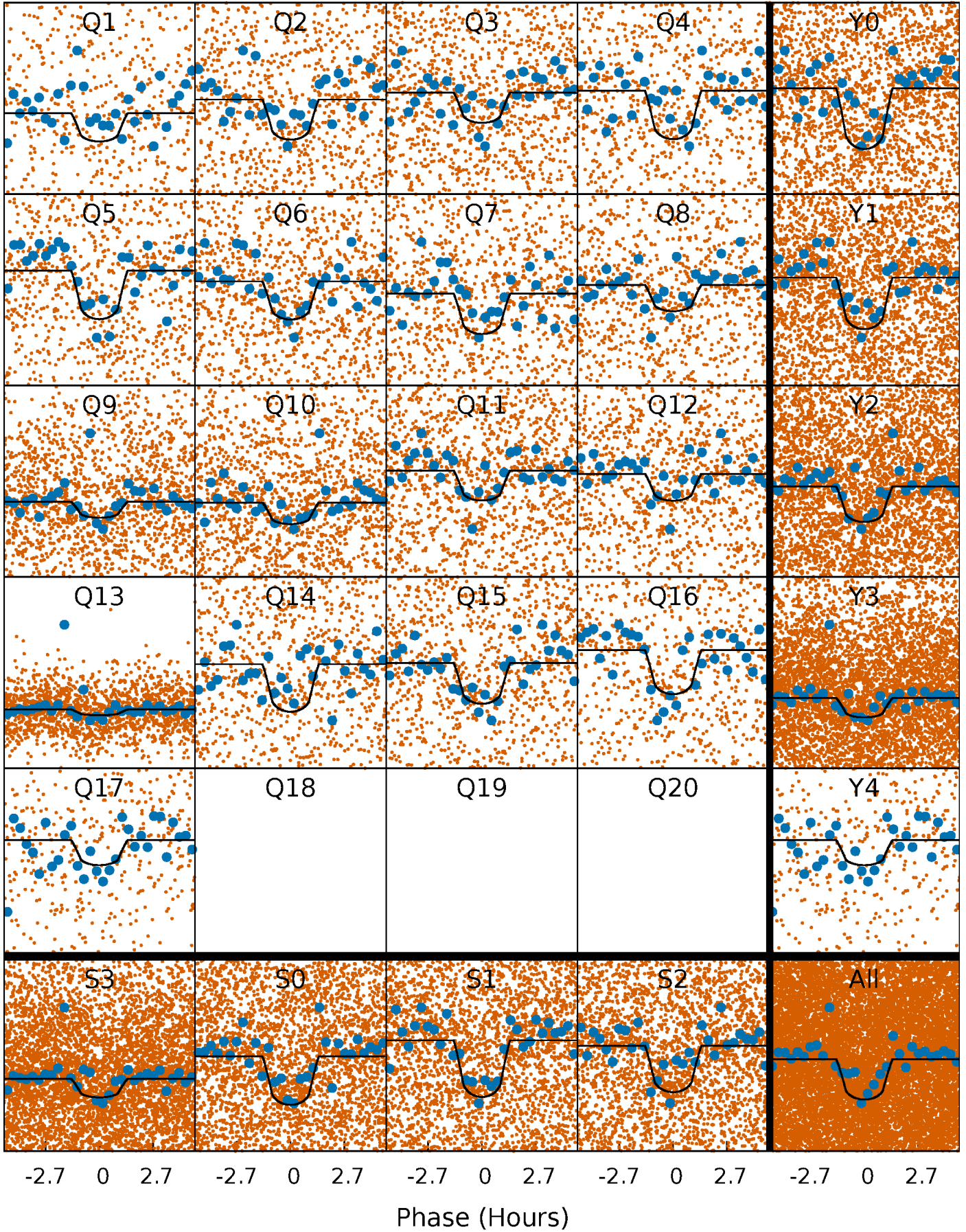
PDC Quarter-Phased Transit Curves

TCE 005036480-01 P= 1.061027 Days $T_0=132.511429$ (BKJD)



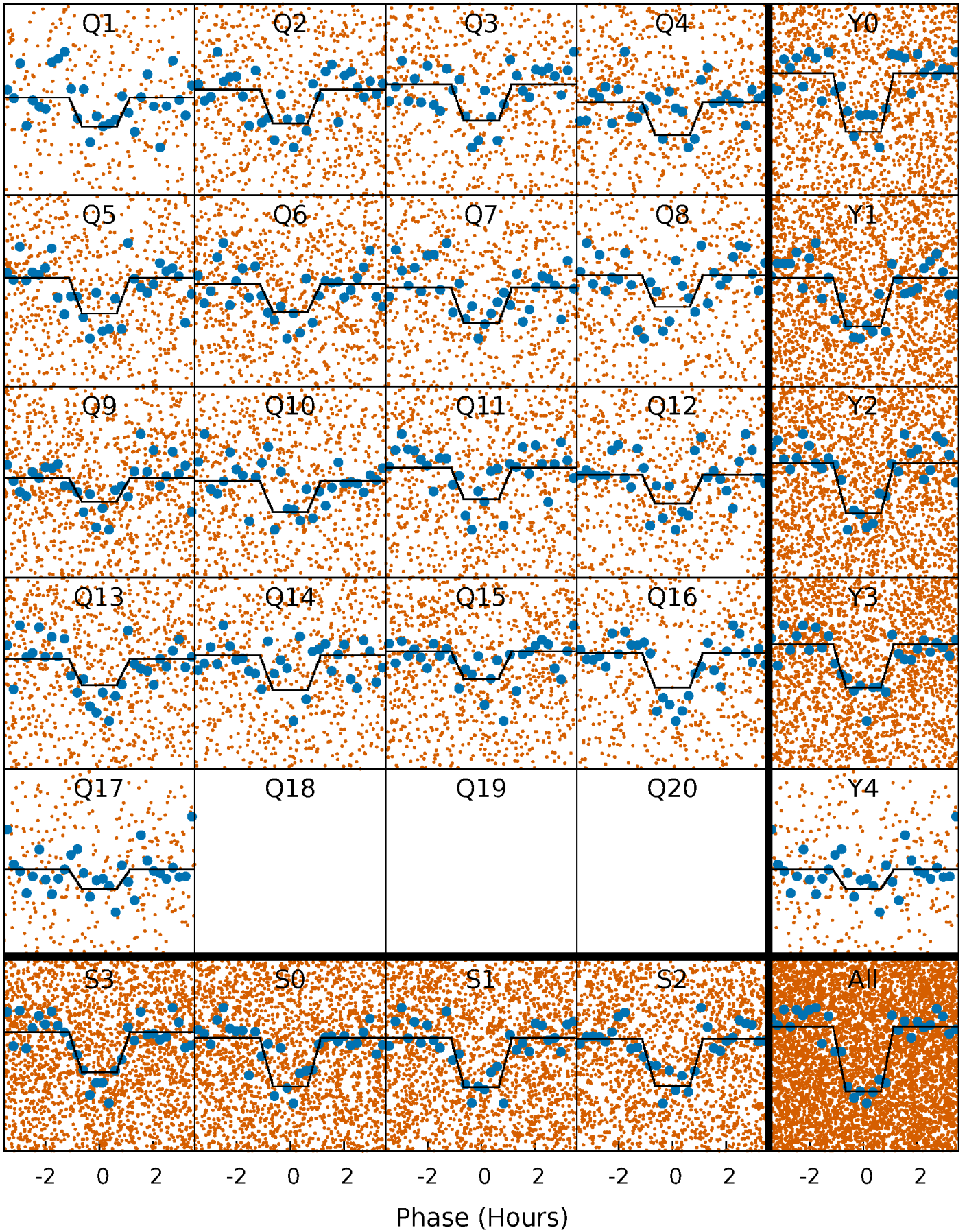
DV Quarter-Phased Transit Curves

TCE 005036480-01 P= 1.061027 Days $T_0=132.511429$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

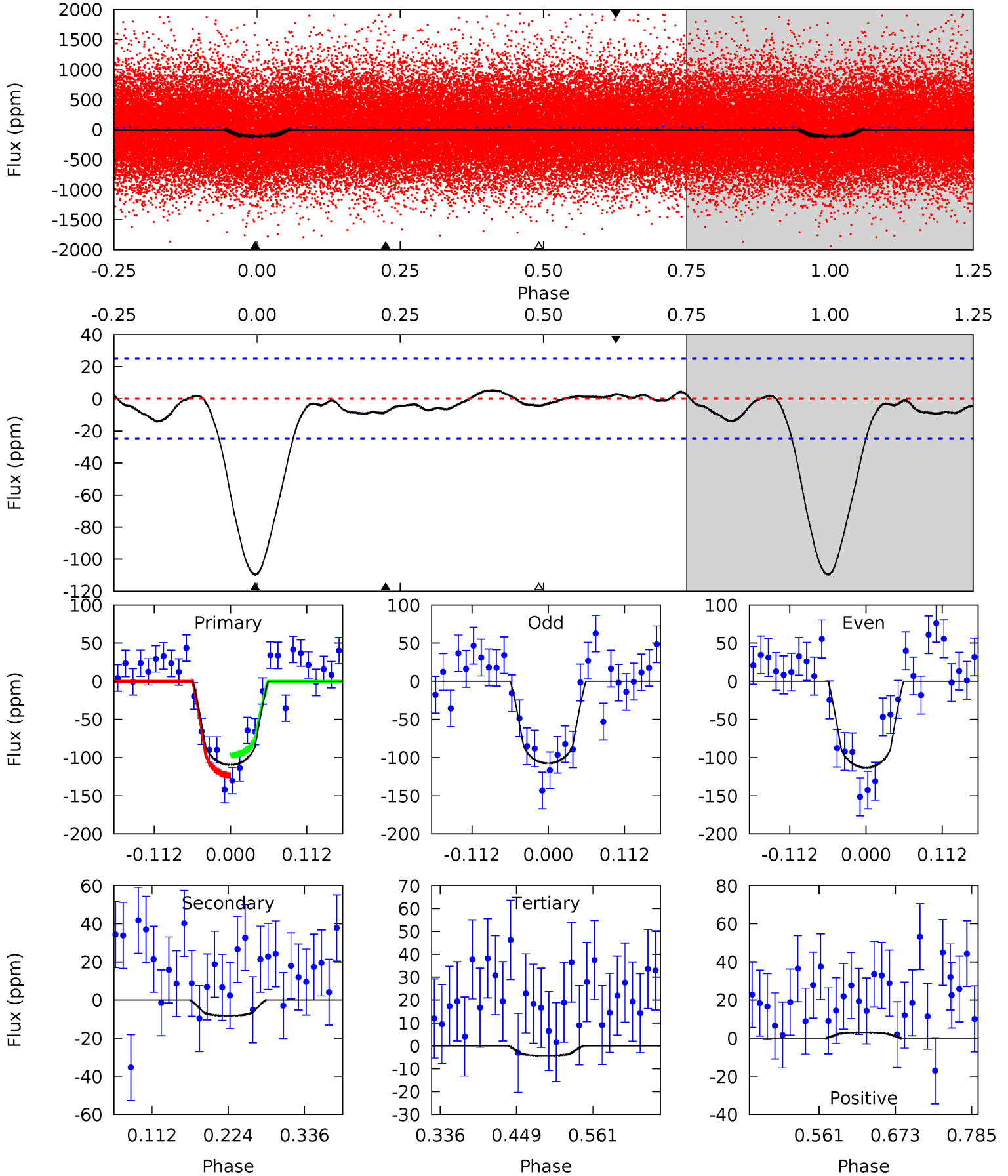
TCE 005036480-01 P= 1.060998 Days $T_0=132.527478$ (BKJD)



DV Model-Shift Uniqueness Test

005036480-01, P = 1.061027 Days, E = 131.450402 Days

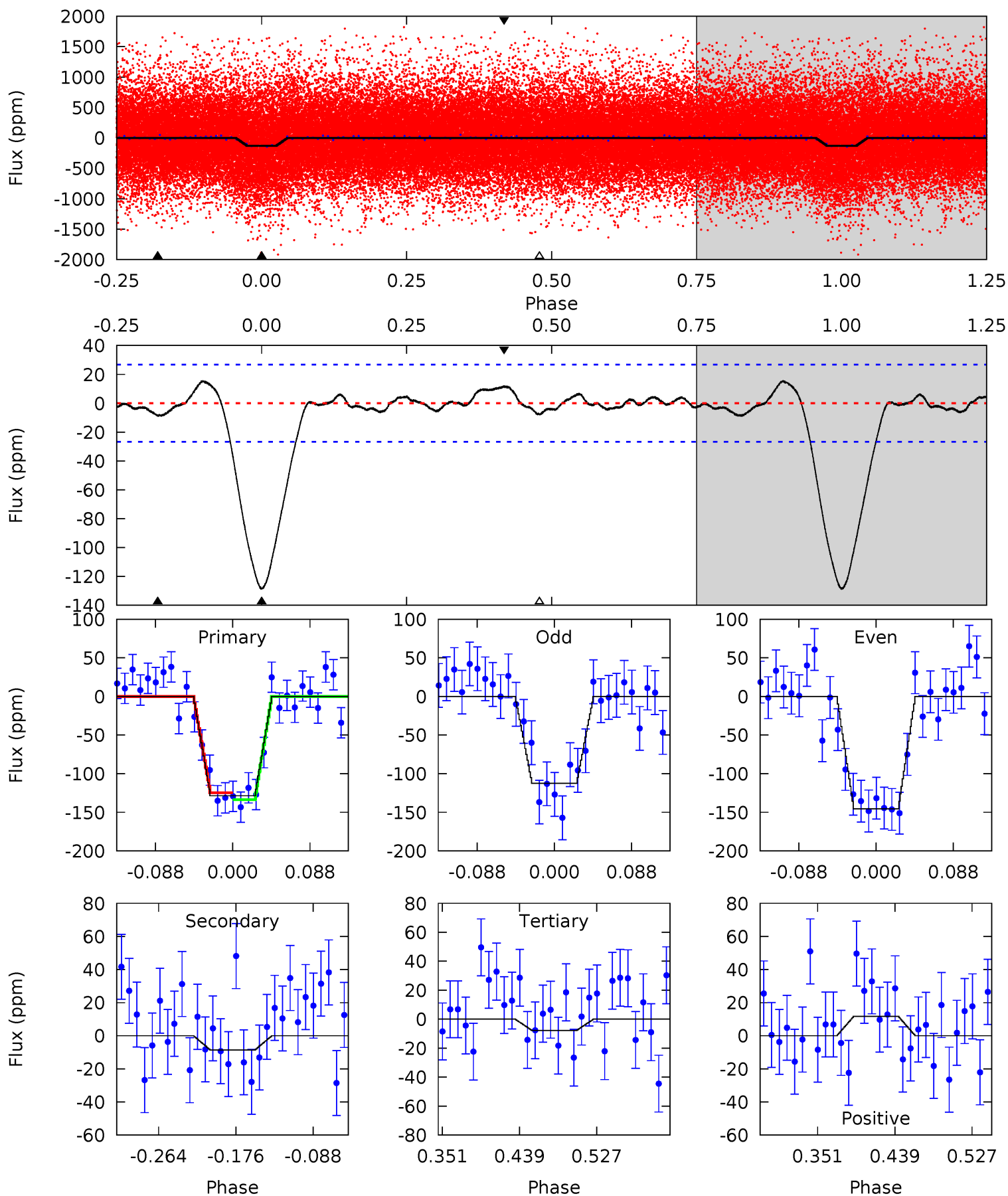
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	1.51	0.80	0.54	4.54	1.59	0.82	19.1	19.4	0.72	0.97	0.51	0.78	0.05	2.40



Alt Model-Shift Uniqueness Test

005036480-01, P = 1.060998 Days, E = 131.466480 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	1.49	1.34	2.02	4.59	1.71	0.75	20.8	20.1	0.15	-0.53	2.84	0.97	0.11	0.76



Stellar Parameters For KIC 005036480

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5767^{+156}_{-173}	$4.538^{+0.044}_{-0.176}$	$-0.060^{+0.300}_{-0.300}$	$0.881^{+0.230}_{-0.077}$	$0.979^{+0.102}_{-0.114}$	$2.017^{+0.363}_{-0.976}$
	+3%/-3%	+1%/-4%	+500%/-500%	+26%/-9%	+10%/-12%	+18%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005036480-01 / KOI 4080.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 5	$1.15^{+0.59}_{-0.53}$	2389^{+147}_{-99}	3229^{+875}_{-1099}	$1.274^{+3.386}_{-0.938}$
Alt.	-9 ± 6	$1.16^{+0.56}_{-0.61}$	2386^{+145}_{-102}	3254^{+1040}_{-1154}	$1.280^{+4.118}_{-0.949}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

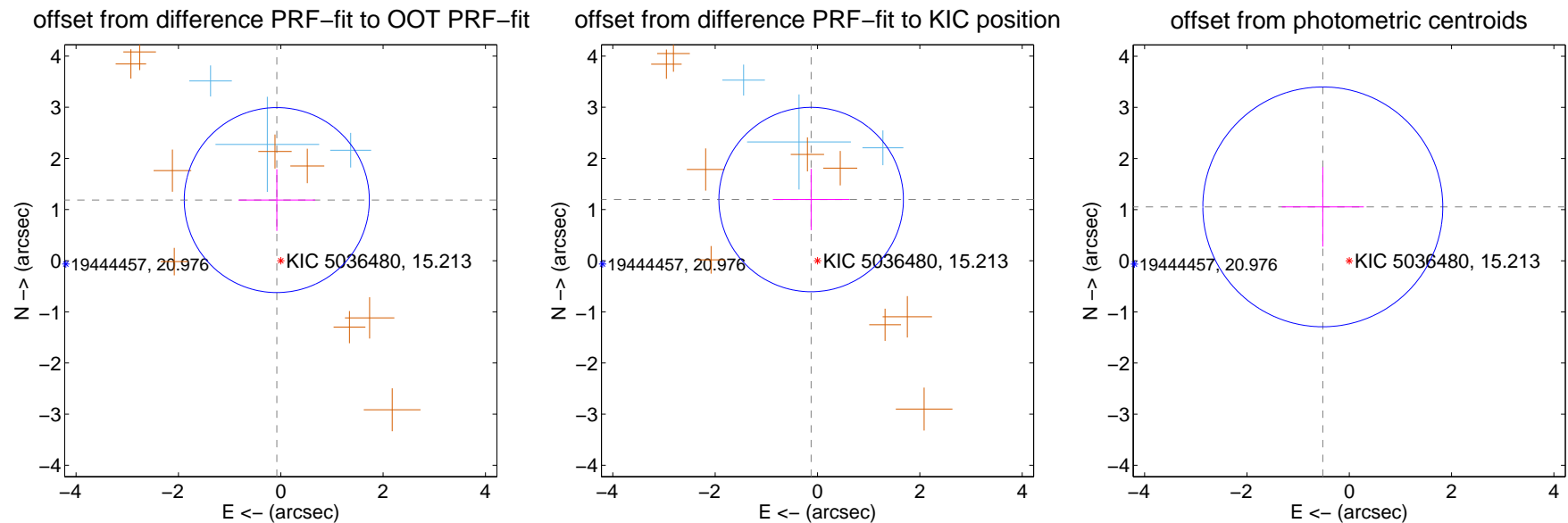
DV Centroid Data

Supplemental centroid analysis for 005036480-01. Kepler magnitude: 15.21. Transit SNR 16.91

There are 3 quarters with good PRF difference image offsets

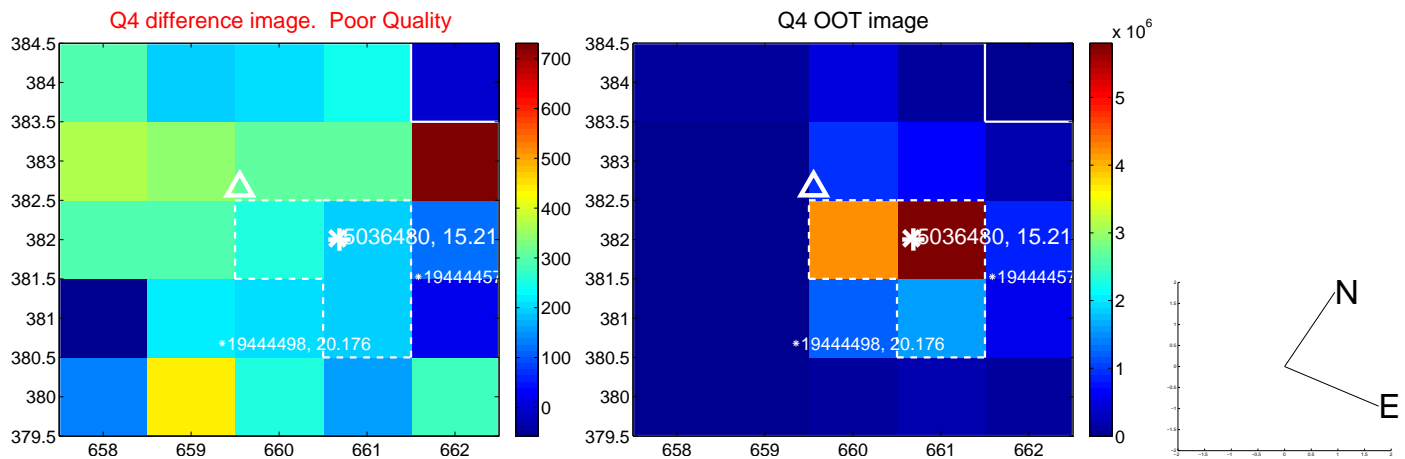
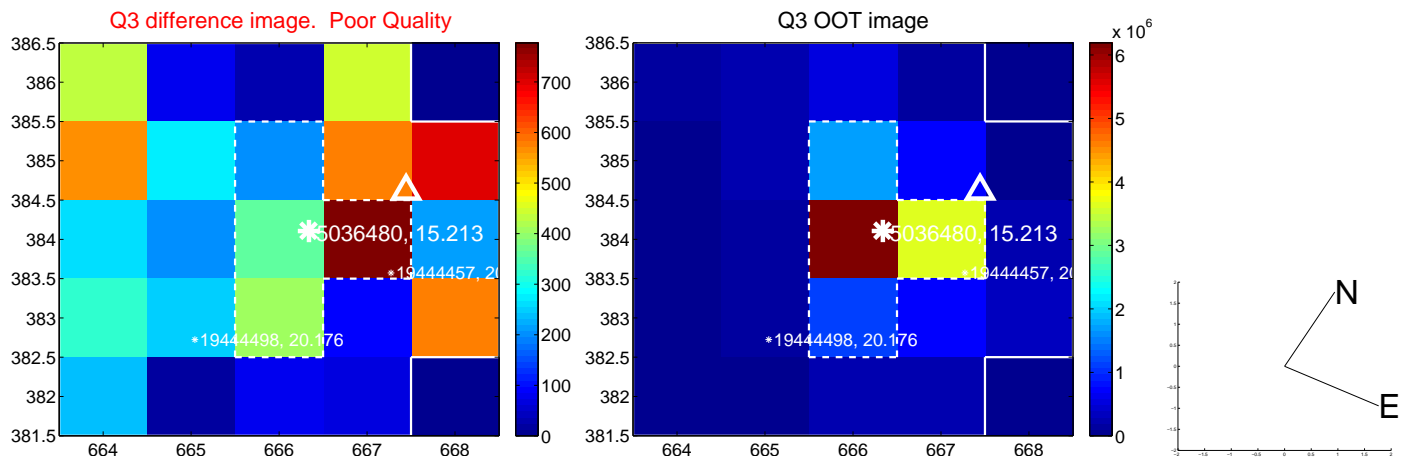
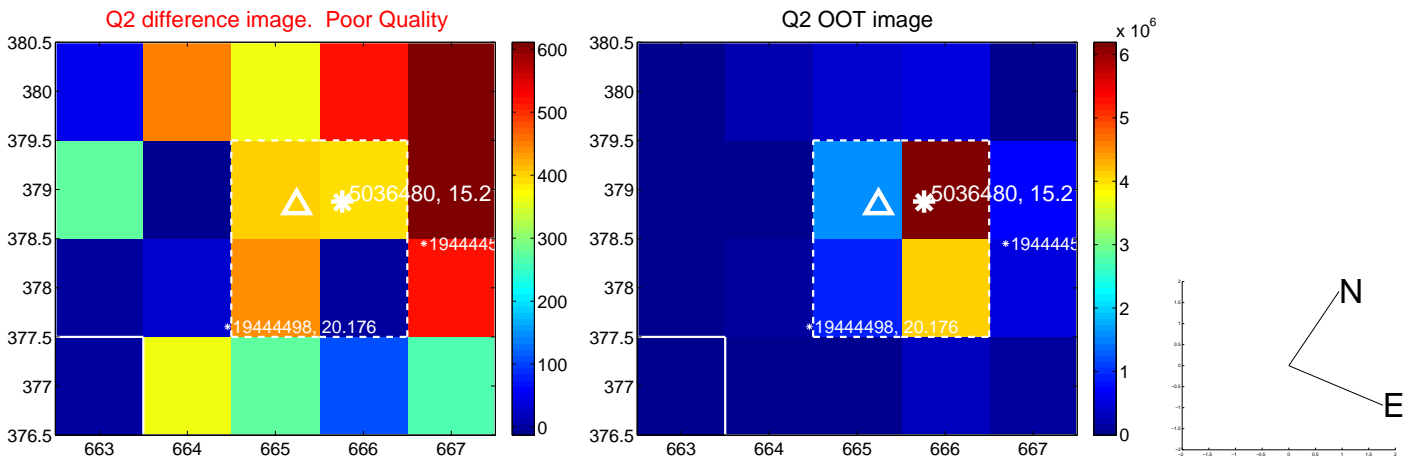
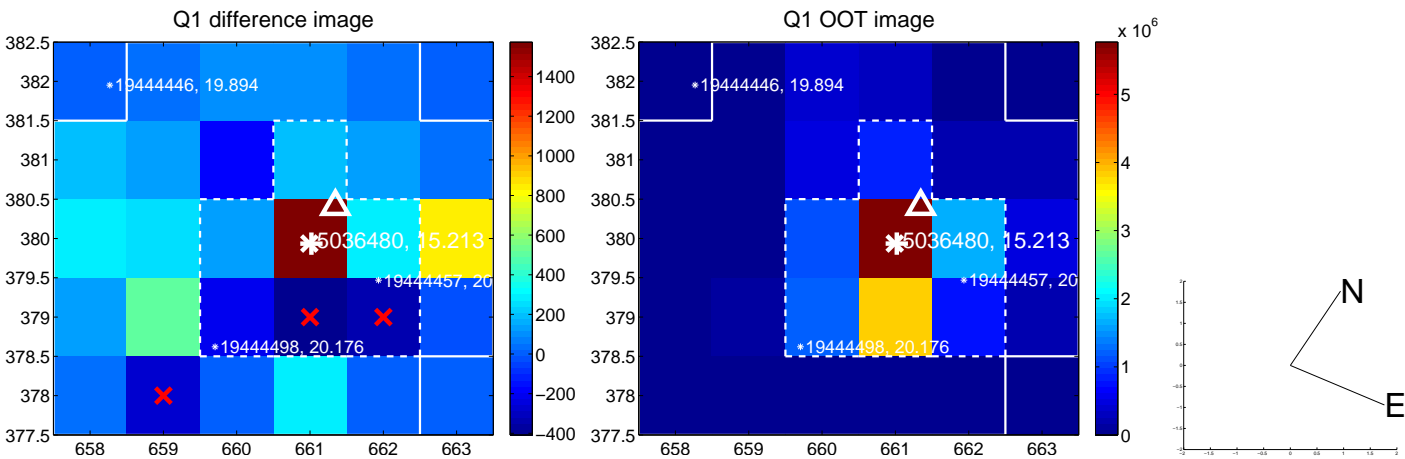
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.188 ± 0.603	1.97	0.078 ± 0.751	1.185 ± 0.602
PRF-fit source offset from KIC position	1.202 ± 0.601	2.00	0.124 ± 0.748	1.196 ± 0.599
photometric centroid source offset	1.17 ± 0.78	1.50	0.52 ± 0.80	1.05 ± 0.78

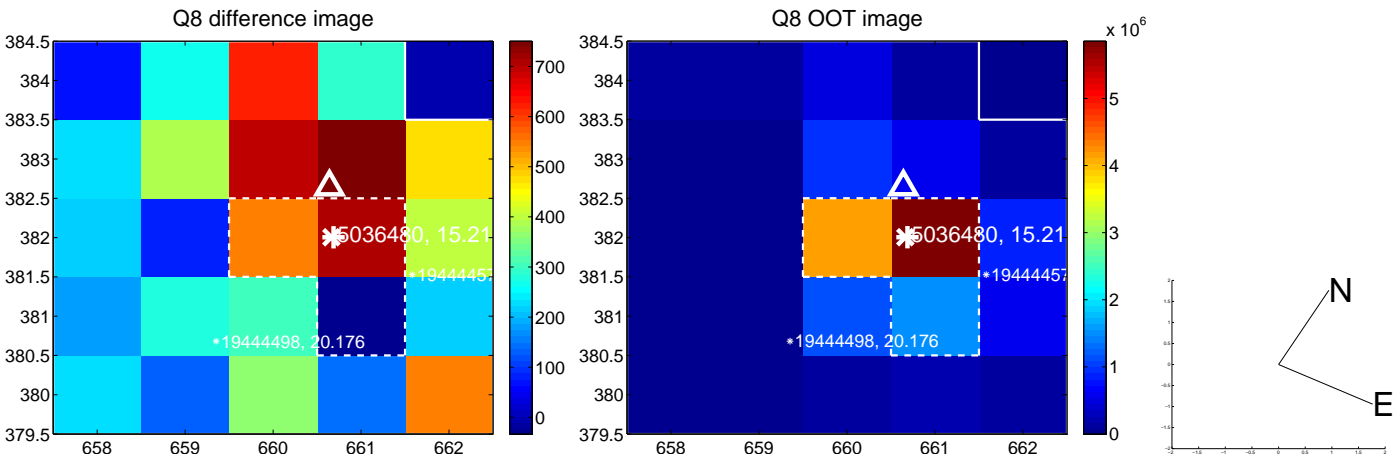
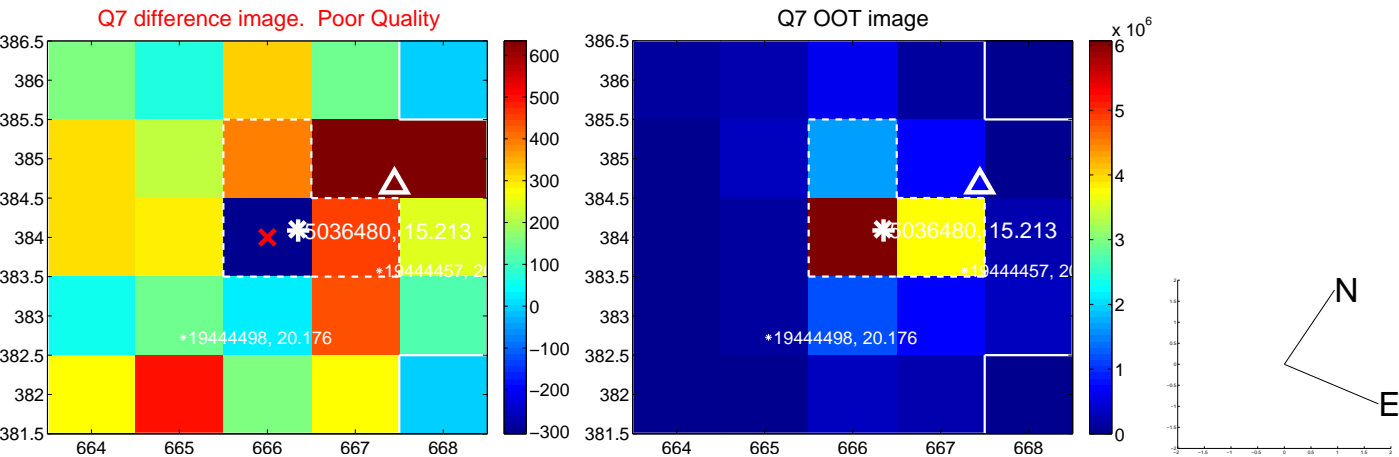
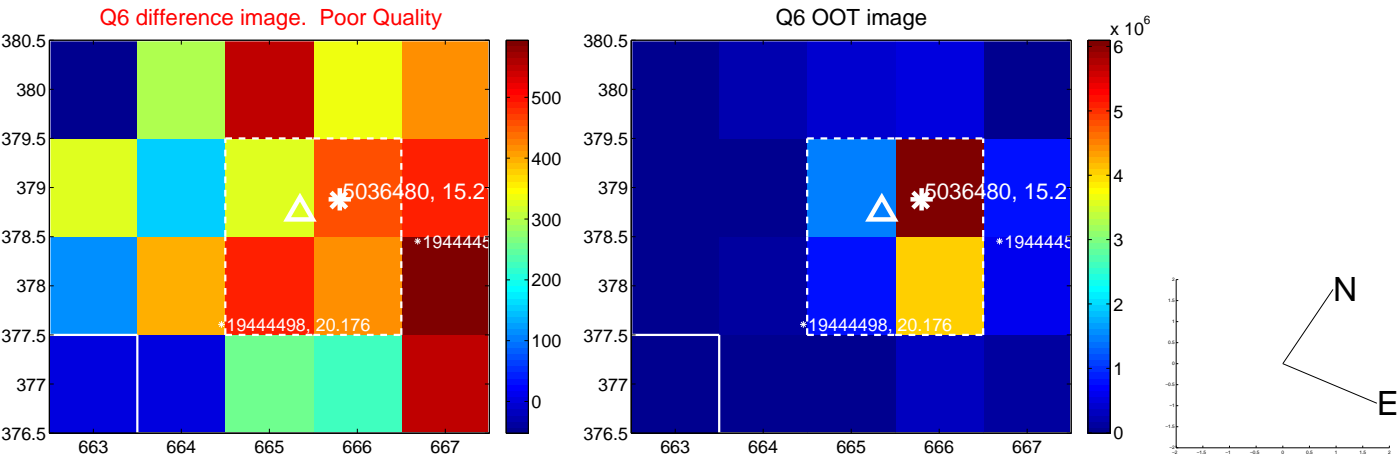
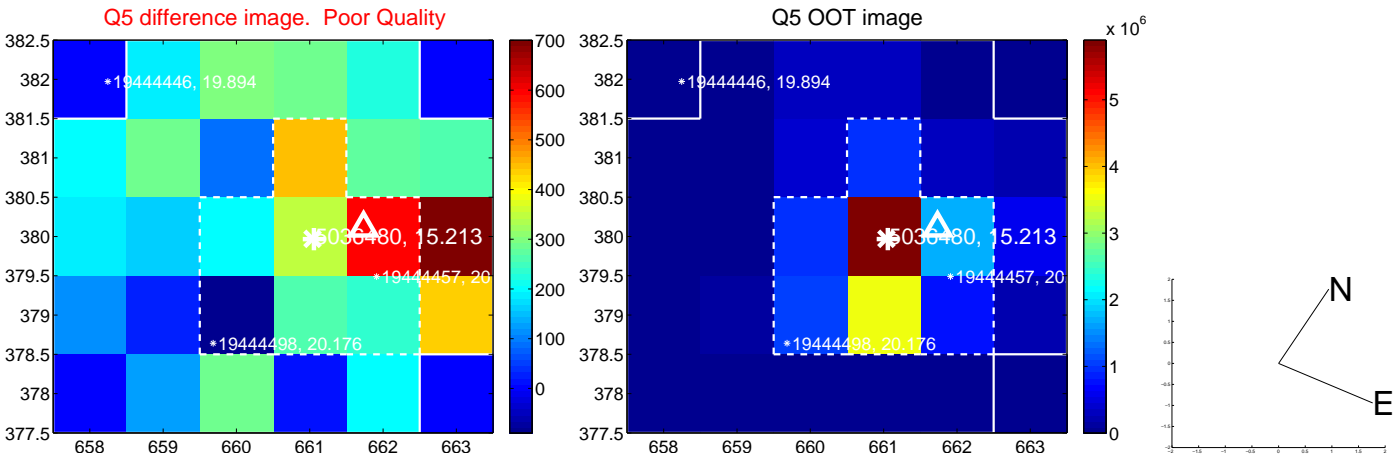


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

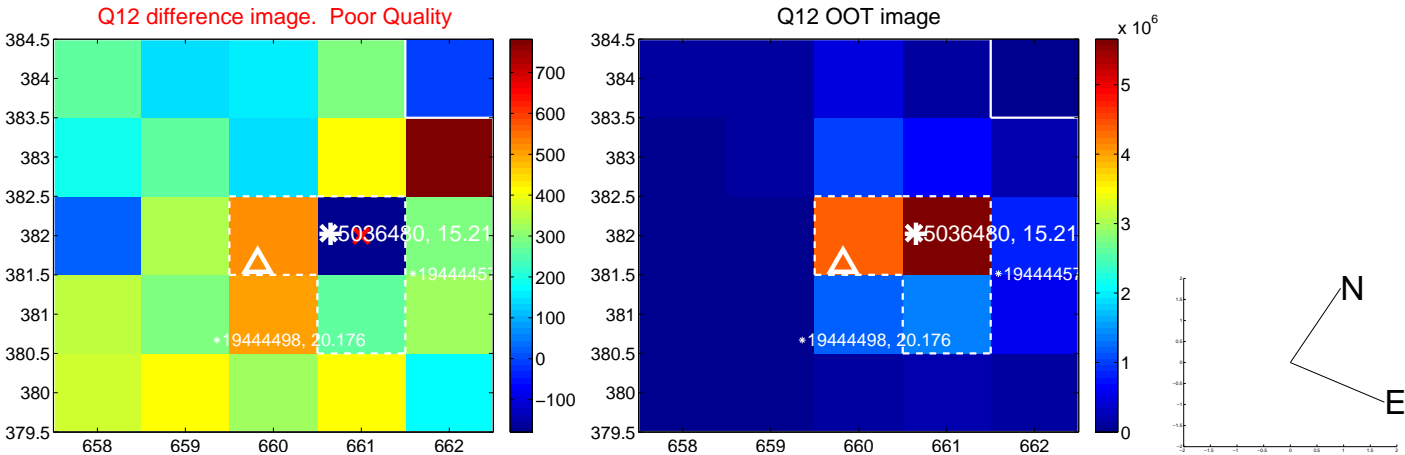
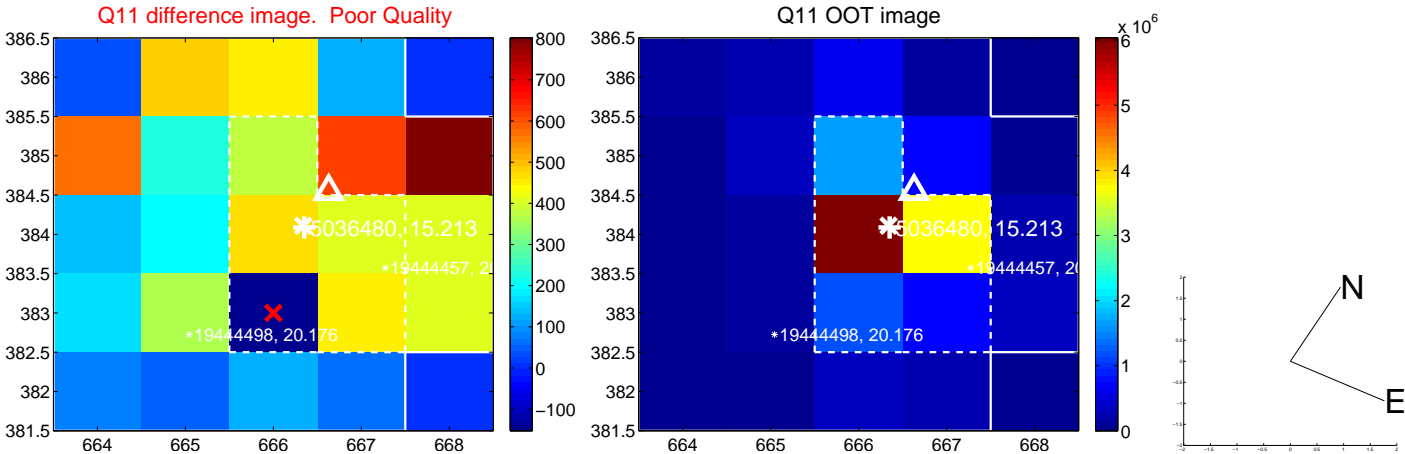
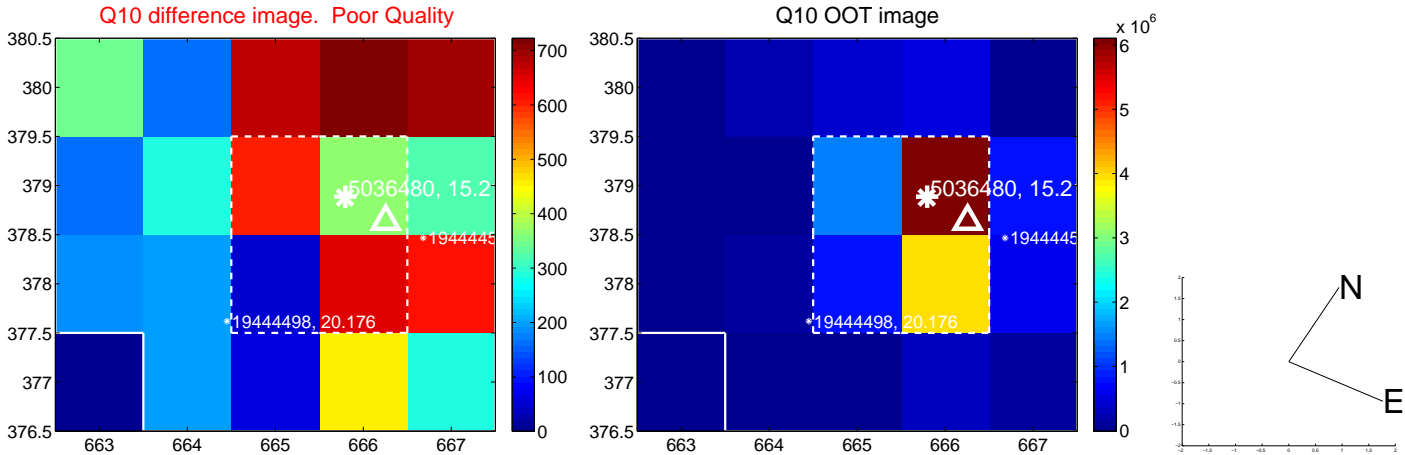
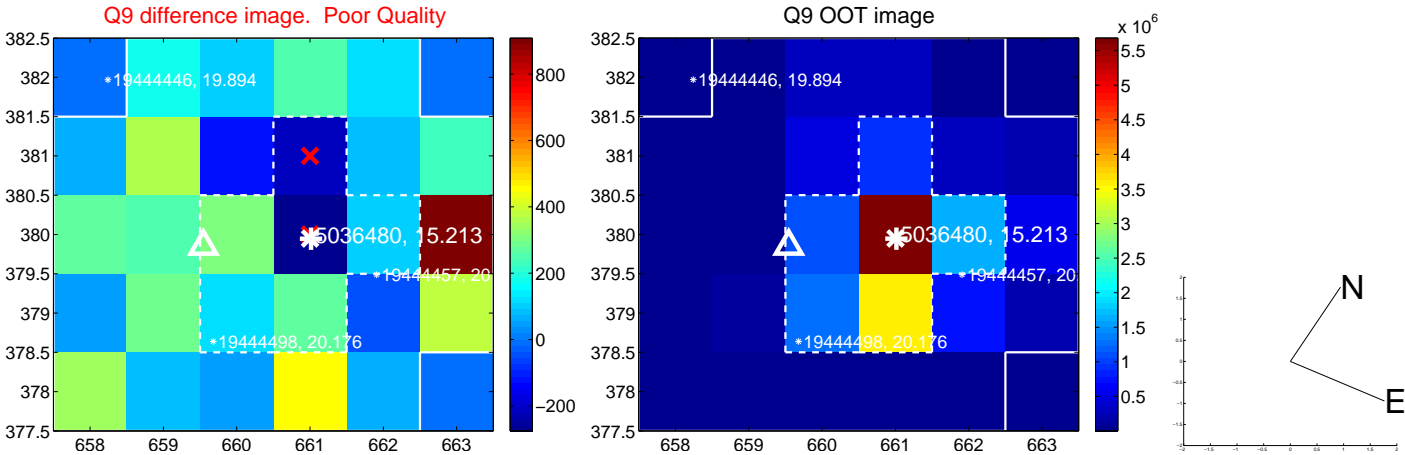
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



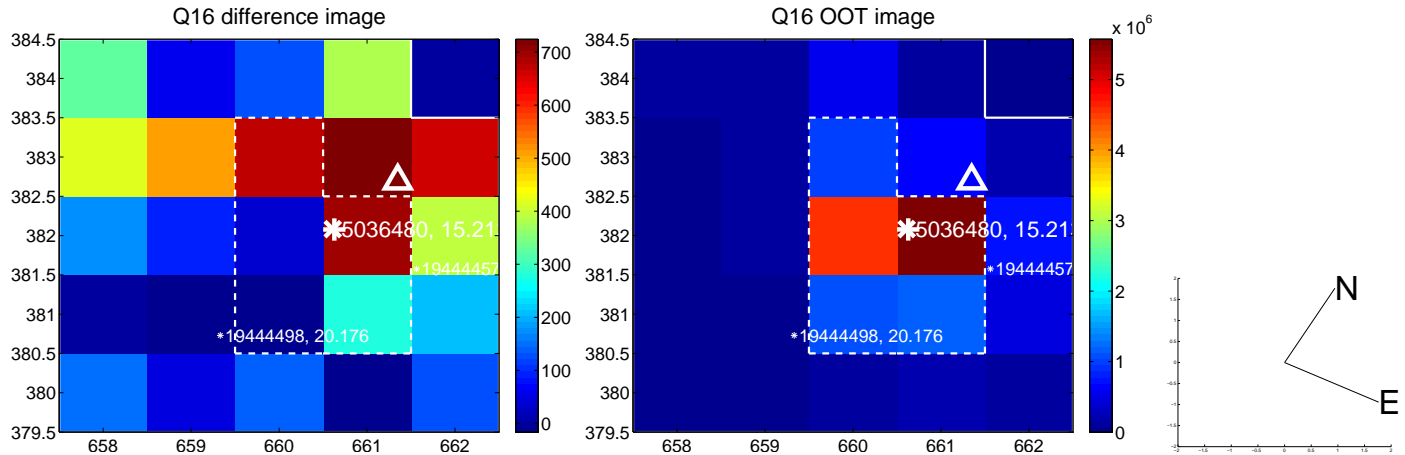
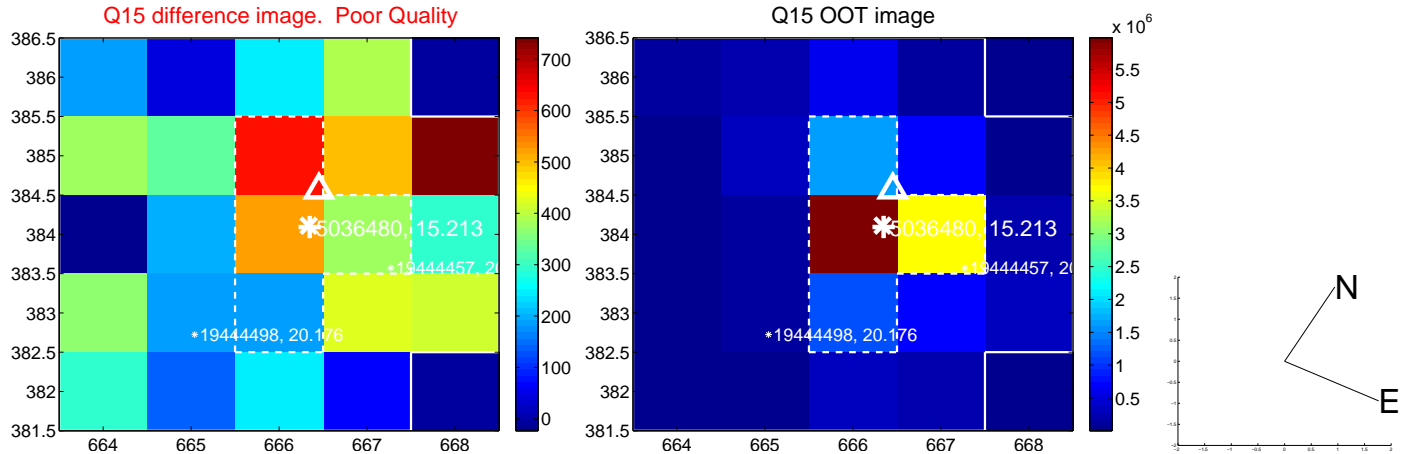
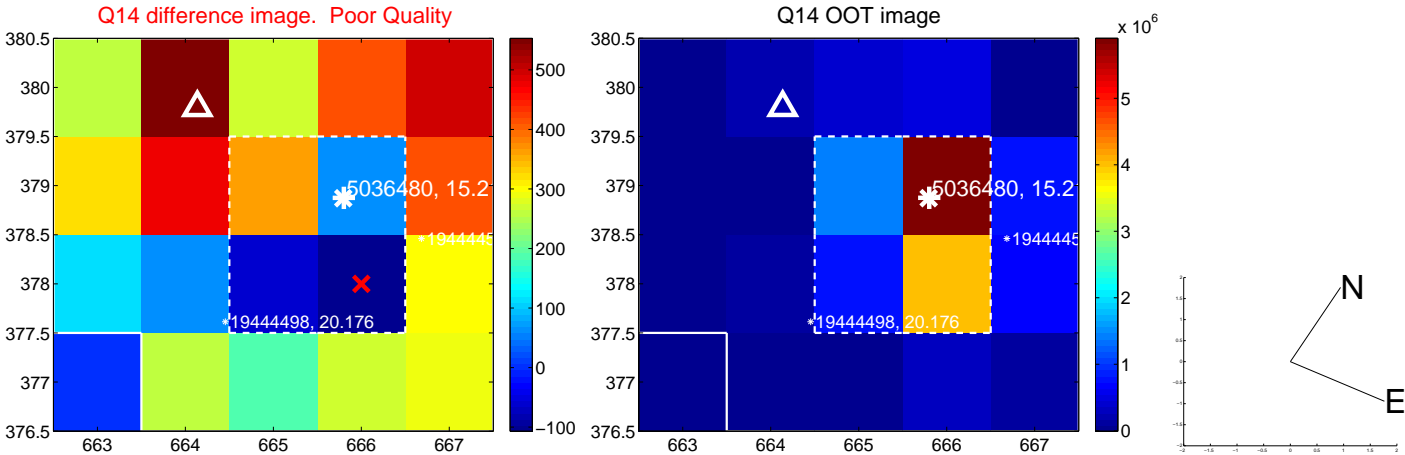
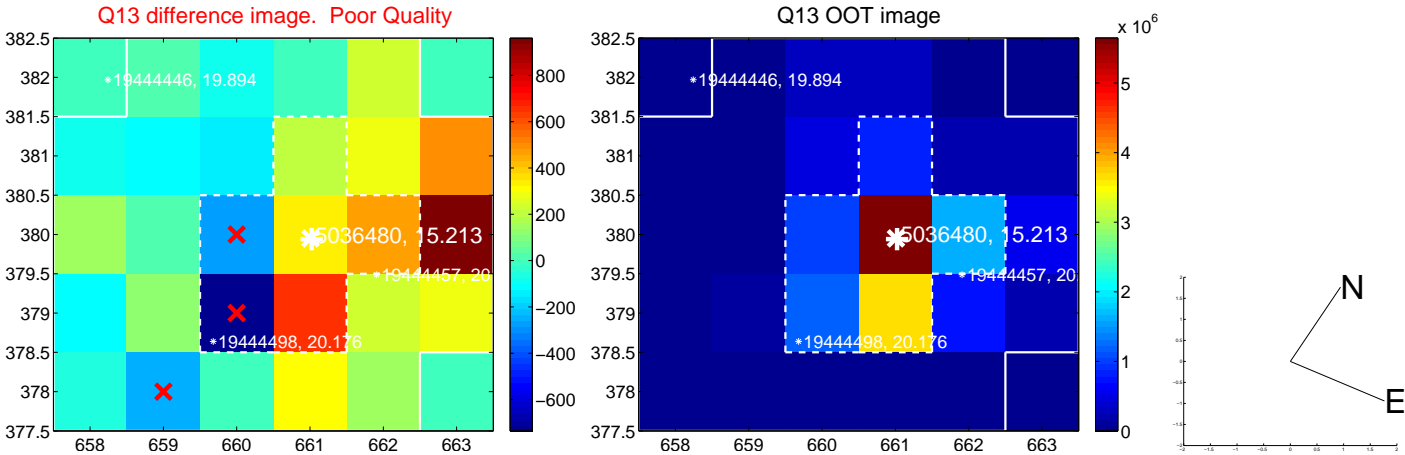
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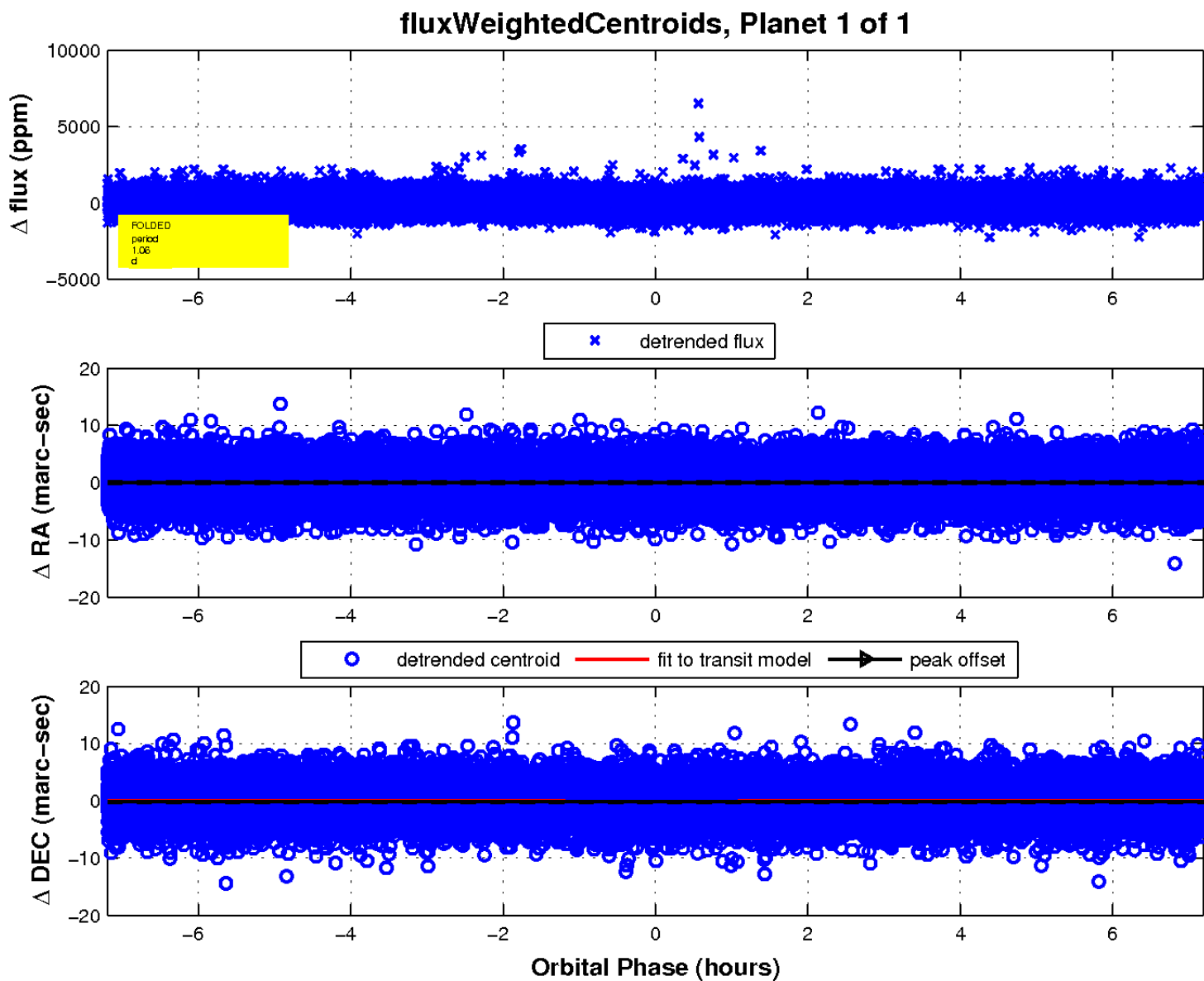
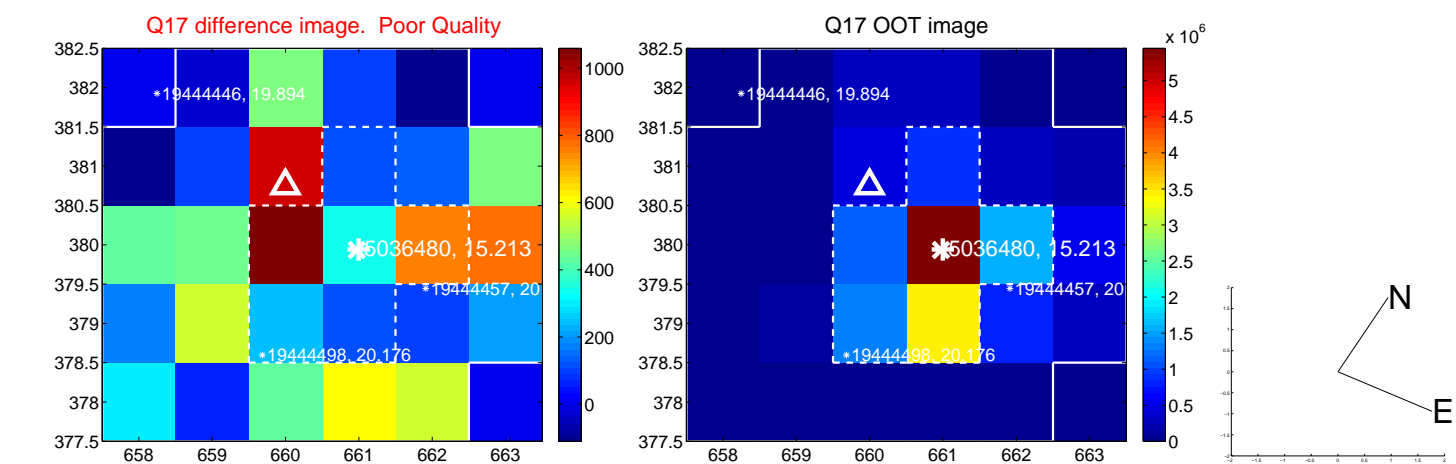
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white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

